

REMARKS/ARGUMENTS

Support for the amendment to Claim 1 is found at specification page 5, two lines from the bottom – page 6, line 3; page 11, line 12 – page 12, line 2; page 13, line 17 – page 14, line 2; page 14, lines 18-20; page 15, lines 8-22; and page 16, lines 7-13. New Claims 3-10 are supported at specification page 7, second paragraph, by the paragraph bridging pages 8-9, by page 9, second full paragraph, by the paragraph bridging pages 9-10, and by page 10, first, second and third full paragraphs. No new matter has been entered.

Claim 1 had been amended to point out a preferred embodiment of the invention. As noted above, several preferred limitations have been added to the claim, including the requirements that adamantane contained in the resultant liquid reaction mixture be concentrated until the adamantane concentration is 10 to 50 mass%. As noted at specification page 11, second full paragraph, when the concentration ratio is excessively low, the recovery efficiency of adamantane in the crystallization step degrades. On the other hand, when the concentration ratio is excessively high, impurities are also relatively concentrated, so the impurities are apt to be taken in with the adamantane in the crystallization step.

Another limitation added to the claims is that the washed adamantane crystals obtained by the invention process have an APHA color of 5 or lower. While not bound by theory, it is believed that by limiting the content of endo-trimethylenenorbornane ("endo-TMN") in the concentrate used in the crystallization step as claimed<sup>1</sup> a product having an APHA color of 5 or lower is obtained. See the paragraph bridging specification pages 12-13. The art applied against the claims, Honna, discloses neither of these aspects of the presently claimed invention.

Honna relates to a process for producing adamantane compounds using tricyclic saturated hydrocarbons (see Table 1 at col. 2 of the reference which does *not* include

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<sup>1</sup> Claim 1 requires a mass ratio of endo-trimethylenenorbornane to adamantane contained in materials subjected to step (C) of 0.25 or lower.

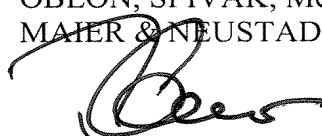
trimethylenenorbornane) and, in example 1, uses *endo*-trimethylenenorbornane. The resultant solution was diluted in hexane, concentrated by distillation and let stand to precipitate adamantane. See the paragraph bridging cols. 3-4 of the reference as well as col. 5, lines 38-42, col. 6, lines 7-10, and col. 8, lines 38-46. Nowhere is it suggested to concentrate adamantane to a concentration of 10 to 50 mass%, nor does the reference suggest a mass ratio of *endo*-trimethylenenorbornane to adamantane for materials subjected to present step (C) of 0.25 or lower. In fact, this latter point – the limitation on *endo*-trimethylenenorbornane - is not only not suggested by the reference, it is probably taught against by the use of *endo*-trimethylenenorbornane as starting material. While the Honna material is claimed to be 99% pure (col. 4, line 8), it is not described as colorless or as having an APHA color of 5 or lower, and as is known in the art, less than 1% impurity can provide significant color to an organic molecule.

In addition to these deficiencies, the Honna process simply does not disclose a process as claimed herein, with steps (A) – (F) providing adamantane crystals having an APHA color of 5 or lower.

Because the present invention provides a process for producing highly pure and colorless adamantane efficiently and while minimizing loss in a way that is neither suggested nor disclosed by Honna, Applicants respectfully request the reconsideration and withdrawal of the outstanding rejection, and the passage of this case to Issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAHER & NEUSTADT, P.C.



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Richard L. Treanor  
Attorney of Record  
Registration No. 36,379

Customer Number

**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 08/07)